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CASE REPORT

# Bascom's Simple Pilonidal Sinus Surgery: Simpler with Ultrasound Guidance

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Although a range of procedures have been described for the treatment of pilonidal disease, two techniques form the mainstay of modern surgical management: Bascom's simple surgery and the Bascom cleft lift. We present a case report describing a novel refinement of Bascom's simple surgery using portable ultrasound to identify the extent and location of chronic pilonidal abscess cavities, which allows a more targeted and nuanced approach to this heterogeneous disease, thereby avoiding large and slow healing blind lateral incisions.


## Introduction

Although a range of procedures have been described for the treatment of pilonidal disease [1], two techniques form the mainstay of modern surgical management: Bascom's simple surgery (sometimes called Bascom I procedure or the Bascom "pit-pick and drain") [2] and the modified Karydakis or Bascom "cleft lift" (also known as Bascom II procedure) [3,4]. Pilonidal disease is a heterogeneous condition, and the absolute indications for each technique are still unclear. In the Bascom I procedure, the midline sinus pits are excised using small diamond-shaped incisions. The chronic abscess cavity is drained through a generous lateral incision that is subsequently left open to heal by secondary intention (Fig. 1A) [3]. In many patients, however, the incision is poorly placed or overly generous resulting in prolonged healing time, as the location and extent of the abscess cavity is unknown. The Bascom II procedure, involving wide excision of both the midline pits and abscess cavity en bloc, is usually reserved for more severe disease or recurrences.

Here, we present a novel modification to Bascom's simple surgery that facilitates a more targeted approach to

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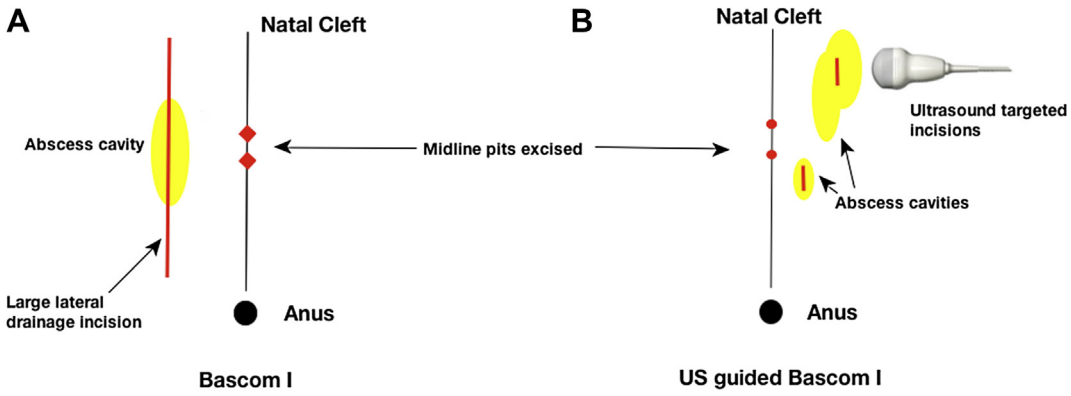


**Fig. 1** (A) In the traditional Bascom I procedure, size and location of the chronic abscess cavity are unknown, requiring large lateral exploratory incisions to facilitate drainage. (B) However, with the use of ultrasound guidance, the extent of disease can be determined accurately, allowing smaller and more targeted drainage and faster healing. US = ultrasound.

the disease and discuss the approach to patient selection for each procedure (Fig. 1B).

## Case presentation

A 24-year-old male with a history of recurrent pilonidal abscess formation presented for surgery. With the patient in a prone position, the buttocks were taped to open the natal cleft. A portable ultrasound machine (GE Logiq e, GE Healthcare, Buckinghamshire, UK) with a small 5–13 MHz linear musculoskeletal transducer was used to interrogate the intergluteal region in order to identify the extent and location of the disease accurately. The hypoechoic debris containing collections could be seen easily (Fig. 2). Hyperechoic linear hair debris was also visible (Fig. 2). The cavity size, extent, and distribution were marked on the skin. In addition, the number and position of midline pits, which are often visualized easily using ultrasound, were noted carefully. Midline pits were excised following local anesthetic infiltration with a disposable Tru-Cut biopsy punch. Remaining midline pits were excised with a 2 mm or 3 mm punch. The midline wounds were then sutured using a subcuticular 3-0 Monocryl (Ethicon Inc., Bridgewater, NJ, USA) and covered with a hydrocolloid dressing, leaving only one small open wound, usually located just off the midline natal cleft but tailored to the individual case, for drainage. The wounds were healed in 10 days and the patient returned to work 2 days after the procedure. The patient was reviewed at 1 week and 2 weeks to ensure that the draining incision did not close too early resulting in an abscess formation. There has been no recurrence after 5 months of follow-up; however, in case of a recurrence, it would be treated with either a repeat simple surgery or a cleft lift procedure depending on the patient's preference.

## Discussion

Using portable ultrasound to determine the location and extent of chronic abscess cavities facilitates small, accurately placed incisions for abscess drainage. In this way, the large lateral open wound associated with a typical Bascom I procedure is avoided. Variable-sized punches ranging from 2 mm to 6 mm may be used for drainage according to the severity of disease: often larger punches are required for lateral sinuses and one of the midline pits over the central abscess cavity to allow adequate debridement and removal of hair debris.

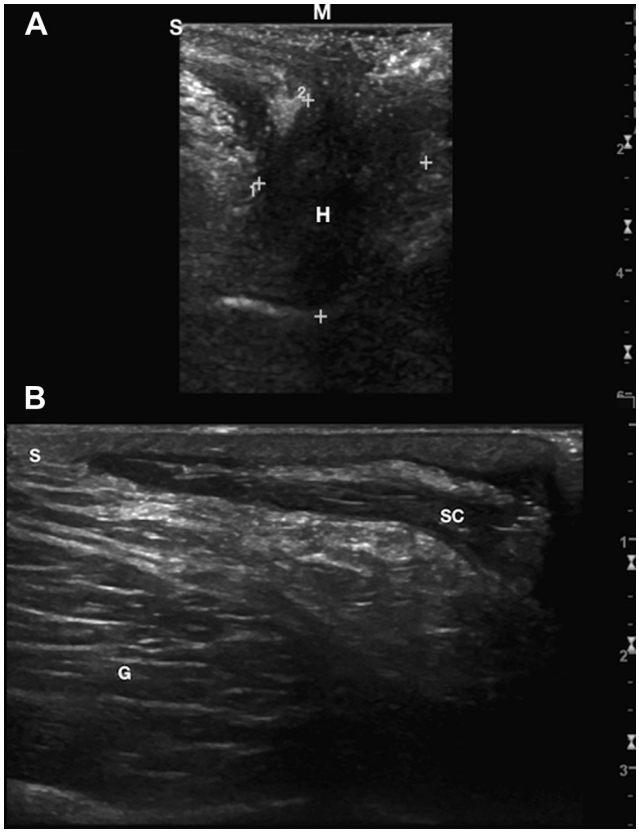


**Fig. 2** (A) Transverse view of the intergluteal region demonstrates hypoechoic cyst cavity. Connection to a midline pit can be seen. In this instance, the abscess cavity does not extend far beyond the midline: incision for lateral drainage can be made on either side. (B) Longitudinal view of the intergluteal region in the same patient reveals significant cyst extension superiorly. Hyperechoic hair debris can be seen within the cyst cavity. G = gluteus muscle; H = hypoechoic cavity; M = midline pit; S = skin; SC = sinus cavity with hyperechoic hair debris.

One small randomized trial, which compared the Bascom "pit-pick and drain" with the Bascom cleft lift for pilonidal sinus disease, concluded that the cleft lift led to more predictable healing and fewer reoperations [5]. Various authors have recommended Bascom's simple surgery for patients with only one or two pits, no lateralizing abscesses or sinuses, and no previous surgery. The cleft left is recommended for extensive disease in hairy patients with a deep natal cleft [4,5]. In our practice, Bascom's simple surgery is offered to patients who understand that it does not alter disease pathophysiology and is associated with a higher recurrence rate, but, at the same time, is also simple, is less time consuming, and can be performed using local anesthesia.

The extent of subcutaneous tracts and disease distribution in these patients can be difficult to detect intraoperatively. Indeed, it can be argued that the "drain" component of Bascom's simple surgery, where a lateral incision is used to access and debride the cavity, merely allows open exploration of sinuses from an area that is less prone to poor wound healing. It could be omitted or minimized if an alternative method of visualizing the extent of disease was available. This idea is reinforced by an Israeli study of 1358 patients in whom a trephine approach was used (midline pits and sinus tracts were excised without lateralizing incisions and cavities were debrided blindly). The authors reported a recurrence rate of 16% after a follow-up period of 10 years [6]. A retrospective series from South Africa demonstrated why tract identification is important: the use of intraoperative methylene blue was associated with a reduction in long-term recurrence rate from 30% to 16% [6]. We have been dissatisfied with the unnecessarily large and poorly placed lateral incisions, impracticality of methylene blue use, as well as the risk of missed disease using a blind approach. The wider availability of ultrasound machines has allowed us to adopt a more nuanced and less morbid approach to the treatment of this heterogeneous disease, facilitating targeted drainage through small incisions.

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